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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR   | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|------------------------|---------------------|------------------|
| 09/191,281      | 11/12/1998  | NEELAKANTAN SUNDARESAN | AM9-98-157          | 8452             |

22462 7590 08/13/2003

GATES & COOPER LLP  
HOWARD HUGHES CENTER  
6701 CENTER DRIVE WEST, SUITE 1050  
LOS ANGELES, CA 90045

[REDACTED] EXAMINER

SINGH, RACHNA

| ART UNIT | PAPER NUMBER |
|----------|--------------|
| 2176     | 12           |

DATE MAILED: 08/13/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                                        |                                             |
|------------------------------|----------------------------------------|---------------------------------------------|
| <b>Office Action Summary</b> | <b>Application No.</b>                 | <b>Applicant(s)</b>                         |
|                              | 09/191,281<br>Examiner<br>Rachna Singh | SUNDARESAN, NEELAKANTAN<br>Art Unit<br>2176 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 27 May 2003.
- 2a) This action is FINAL.                  2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-69 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-69 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) The proposed drawing correction filed on \_\_\_\_\_ is: a) approved b) disapproved by the Examiner.  
 If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

#### Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some \* c) None of:
1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
 a) The translation of the foreign language provisional application has been received.
- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

#### Attachment(s)

- |                                                                                              |                                                                             |
|----------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                  | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

1. This action is responsive to Appeal Brief filed 5/27/03. The examiner has withdrawn the rejection based on Xmetal 1.0, Available at:  
<http://www.webreference.com/html/watch/xmetal>.

2. Claims 1-69 are pending. Claims 1, 24, and 47 are independent claims.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. **Claims 1, 4-7, 24, 27-30, 47, and 50-53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dale, U.S. Patent No. 6,272,673 B1, Aug. 7, 2001, filed Nov. 25, 1997 in view of Kyojima et al (5,920,879).**

Regarding independent claims 1, 24, and 47, Dale discloses “generating class specifications in the computer system,” or **create one director component**, as in column 10, lines 50-59, as the components in question are Java components embedded in the document. Dale teaches displaying a graphical user interface on a display device and using an editor to integrate components into a hypertext pages to create an application. Dale’s editor allows text to be combined with various components. See abstract and columns 19-20. Furthermore, Dale discloses “instantiating objects in the computer system from the class specifications,” as in

column 10, lines 60-63, as Dale describes **instantiating components**, particularly Java components as explained in column 5, lines 7-9.

It is noted that Dale does not explicitly say the **components** are "class specifications". However, refer to Kyojima's abstract and columns 1-4, in which he discloses the generation of "class specifications" from "schemas". It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the inventions of Dale and Kyojima in arriving at the instant invention because such combination would facilitate adaptation of one type of component model to another according to structural constraints (see Kyojima's column 3, bottom). This would further aid Dale's invention in moving application components from tier to tier (see Dale's column 2).

Regarding claim 4, 27, and 50, Dale discloses that the class specifications are "Java class specifications," as in column 13, lines 1-3, where it is explained that the components and interface are actually a **specification of the methods, or subroutines, which a component supports** within the Java class.

Regarding claims 5, 28, and 51, Dale discloses the "generating step of converting an entity in the schema into the class specification," as in column 3, lines 64-67, where Dale describes the **CPU executing instructions which convert the received instructions**, already known to be Java components, **to instructions which can be directly executed by the CPU**, which is known to be the instantiated objects from the class specification.

Regarding claims 6, 29, and 52, Dale discloses in column 20, 5-15 that the user can **customize and select which components are included in the application** which are “optional customization specifications.”

Regarding claims 7, 30, and 53, Dale discloses custom specifications that define the class names to generate, as in column 6, lines 18-20, where the programs are like applets where the class names must be defined, as in the example in column 14, lines 57-60.

5. **Claims 2, 17-18, 25, 40-41, 48, and 63-64 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dale in view of Kyojima, as applied to claims 1, 24, and 47 above, and further in view of Bray, “Extensible Markup Language (XML): Part I. Syntax,” <http://www.w3.org/TR/WD-xml-lang-970331>, Mar. 31, 1997.**

Regarding claims 2, 25, and 48, a method for converting schemas to component models is disclosed above; however, Dale does not expressly disclose using XML documents and schemas. Bray discloses the use of XML syntax within documents and the schemas involved, as in page 7+.

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine Dale, Kyojima, and Bray to convert document schemas to component models where the documents are XML schemas. One of ordinary skill in the art would have been motivated to do this because it was known that XML was slowly becoming the primary standard for well-formed, definable, markup languages, and also because of its ability to define the tags within the document it was very useful to specify objects and indicate specific components within the document.

Regarding claims 17-18, 40-41, and 63-64, Dale in view of Kyojima does not expressly disclose the use of regular expression languages. However, Bray discloses the use of a regular expression language using EBNF notation that comprises of the operators, and also optimizing the regular expression language, as on page 5. Furthermore, Bray discloses, under section D of page 38, that the non-deterministic models are **reduced** or “optimized.”

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to generate class specifications from a regular expression language. One of ordinary skill in the art would have been motivated to do this because XML already clearly uses and interprets the EBNF standard. Also, it would be obvious to want to be able to instantiate multiple types of languages, and regular expression languages are a common type of language. Furthermore, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to optimize the regular expression language. One of ordinary skill in the art would have been motivated to do this because it would be more efficient to compile and run.

6. **Claims 3, 26, and 49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dale in view of Kyojima and Bray as applied to claims 2, 25, and 48 above, and further in view of Kirsanov, “XML DTDs and Valid XML Documents,” <http://www.webreference.com/dlab/books/html/38-3.html>, Jun. 16, 1997 and Bray, “Document Content Description for XML,” <http://www.w3.org/TR/NOTE-dcd>, July 31, 1998, now known as Bray 2.**

Regarding claims 3, 26, and 49, a method of converting XML document schemas to component models is disclosed above; however, neither Dale nor Bray expressly discloses the use of DTDs and DCDs. Kirsanov discloses using DTD's for XML documents, as in pages 1-3 and Bray 2 discloses using DCD's, as in page 2, "Introduction."

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine Dale, Kyojima, Bray, and Kirsanov to use XML DTDs and DCDs to select XML schemas. One of ordinary skill in the art would have been motivated to do this because it was known that XML DCDs and DTDs describe the format of the document and also were used by XML parsers to validate the document. Therefore, if one were to use XML schemas then one would need to pick the appropriate schemas and constraints defined by the DCDs and DTDs.

**7. Claims 8-10, 21, 31-33, 44-45, 54-56, and 67-68 rejected under 35 U.S.C. 103(a) as being unpatentable over Dale, U.S. Patent No. 6,272,673 B1, Aug. 7, 2001, filed Nov. 25, 1997 in view of Kyojima et al (5,920,879), as applied to claims 1, 24, and 47 above, and further in view of Softquad HotMetalPro 3.0 User's Manual, 1996, pages 77-83.**

In reference to claims 8, 31, and 54, Dale and Kyojima's system does not state a group comprising a visual editor class, a content implementation class, and handler class; however, HotMetalPro allows the user to use Java in the document editing window and provide various applets for visual means as well as customizing elements. See pages 77-80. It would have been obvious to one of ordinary skill in the art at the

time of the invention to provide any of the above mentioned groups to the editor of Dale and Kyojima since a class specification could relate to the visual editor, the components of XML schemas and initiators of the visual editor.

In reference to claims 9-10, 32-33, and 55-56, HotMetal Pro teaches defining the applet with attributes and parameters. The Parameters can indicate the value and name of the object. See pages 78-79. It would have been obvious to one of ordinary skill in the art at the time of the invention to map and select the elements and attribute of elements to the editor since the system of Dale and Kyojima and HotMetal Pro are concerned with providing class specifications to identify components of the editor.

In reference to claims 21, 44, and 67, HotMetal Pro teaches the use of Java for use in a document editing window. The user can choose a class file or drag and drop it into the document window. See pages 77-80. It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize implementations for widgets in Dale and Kyojima's system since utilizing java class objects for special processing of the screen was well known at the time of the invention.

In reference to claims 22, 45, and 68, HotMetal Pro teaches defining the applet with attributes and parameters. The Parameters can indicate the value and name of the object. See pages 78-79. It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize different expression editors in the system of Dale and Kyojima since both are concerned with using class specifications and editors.

**8. Claims 11-15, 34-38, and 57-61 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dale, U.S. Patent No. 6,272,673 B1, Aug. 7, 2001, filed Nov. 25,**

**1997, Kyojima et al (5,920,879), and Softquad HotMailPro 3.0 User's Manual,  
1996, pages 77-83, as applied to claims 10, 33, and 56 above, and further in view  
of W3C Extensible Markup Language (XML) 1.0, 2/1998, available:  
<http://www.w3.org/TR/1998/REC-xml-19980210>.**

In reference to claims 11, 34, and 57, it was well known at the time of the invention that declarations of attributes in a Document Type Definition of an XML document comprised mandatory, optional, and fixed values. See W3C Recommendation XML 1.0 pages, 18-21. It would have been well known in the art to combine the XML features with the system of Dale/Kyojima/Bray since all are concerned with a system dealing with class specifications.

In reference to claims 12-14, 35-37, and 58-60, while reading in the DTD of the XML document, the declarations of the attributes are carried through. Thus, when the user defines certain attributes, it takes the declarations into consideration. See W3C Recommendation XML 1.0, pages 18-21. It would have been well known in the art to combine the XML features with the system of Dale/Kyojima/Bray since all are concerned with a system dealing with class specifications.

In reference to claims 15, 38, and 61, W3C teaches that there are validating processors that read the DTD and parse entities referenced in the document. See page 31 of W3C Recommendation XML 1.0. It would have been well known in the art to combine the XML features with the system of Dale/Kyojima/Bray since all are concerned with a system dealing with class specifications.

**9. Claims 16, 23, 34-37, 39, 46, 57-60, 62, and 69 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dale, U.S. Patent No. 6,272,673 B1, Aug. 7, 2001, filed Nov. 25, 1997 in view of Kyojima et al (5,920,879), as applied to claims 1, 24, and 47 above, and further in view of W3C Extensible Markup Language (XML) 1.0, 2/1998, available: <http://www.w3.org/TR/1998/REC-xml-19980210>.**

In reference to claims 16, 39, and 62, W3C teaches that there are validating processors that read the DTD and parse entities referenced in the document. See page 31 of W3C Recommendation XML 1.0. It would have been well known in the art to combine the XML features with the system of Dale/Kyojima/Bray since all are concerned with a system dealing with class specifications.

In reference to claims 23, 46, and 69, W3C teaches validating processors that check the validity of the schema and parses entities referenced in documents. In providing validation for a schema, W3C is solving correctness, optimization, and aesthetic issues. Thus it would have been obvious to one of ordinary skill in the art at the time of the invention to utilize validation processors to optimize, correct, and solve aesthetic issues in the editor of Dale, Kyojima, and Bray since it was well known to validate schemas in order to utilize it for applications.

**10. Claims 19-20, 42-43, and 65-66 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dale in view of Kyojima and Bray, "Extensible Markup Language (XML): Part I. Syntax," <http://www.w3.org/TR/WD-xml-lang-970331>, Mar.**

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**31, 1997, as applied to claim 18 above, and further in view of Softquad HotMetal Pro 3.0 User's Manual, 1996, pages 77-83.**

In reference to claims 19-20, 42-43, and 65-66 HotMetal Pro teaches defining the applet with attributes and parameters. The Parameters can indicate the value and name of the object. See pages 78-79. It would have been obvious to one of ordinary skill in the art at the time of the invention to define widgets with class specifications that are associated with the operators and entities since it was well known to define that information for editors at the time of the invention as taught by HotMetal Pro.

### ***Conclusion***

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US Patent 5,915,259      Murata      6/22/99

US Patent 5,924,101      Bach et al.      7/13/99

US Patent 5,926,823      Okumara et al.      7/20/99

US Patent 6,279,015      Fong et al.      8/21/01

W3C Document Content Description for XML, July 1998, <http://www.w3.org/TR/NOTE-dcd>.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rachna Singh at 703.305.1952. The examiner can normally be reached on Monday-Friday from 8:00AM-6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Feild, can be reached at 703.305.9792.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is 703.305.3900.

**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks  
Washington, D.C. 20231

**or faxed to:**

|                           |                     |
|---------------------------|---------------------|
| <b>After-Final</b>        | <b>703.746.7238</b> |
| <b>Official</b>           | <b>703.746.7239</b> |
| <b>Non-Official/Draft</b> | <b>703.746.7240</b> |

Hand-Delivered responses should be brought to Crystal park II, 2121 Crystal Drive, Arlington VA., Sixth Floor (Receptionist).

Rachna Singh  
August 5, 2003



SANJIV SHAH  
PRIMARY EXAMINER